

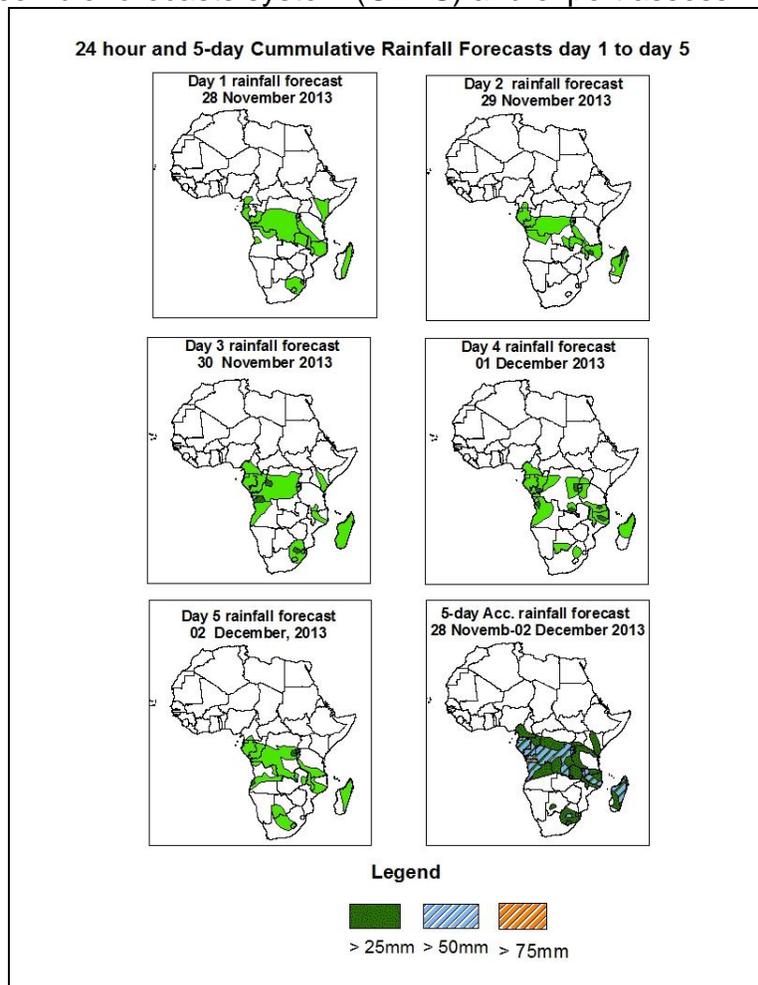


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 28 November – 06Z of 02 December, 2013. (Issued at 1800Z of 27 November 2013)

### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

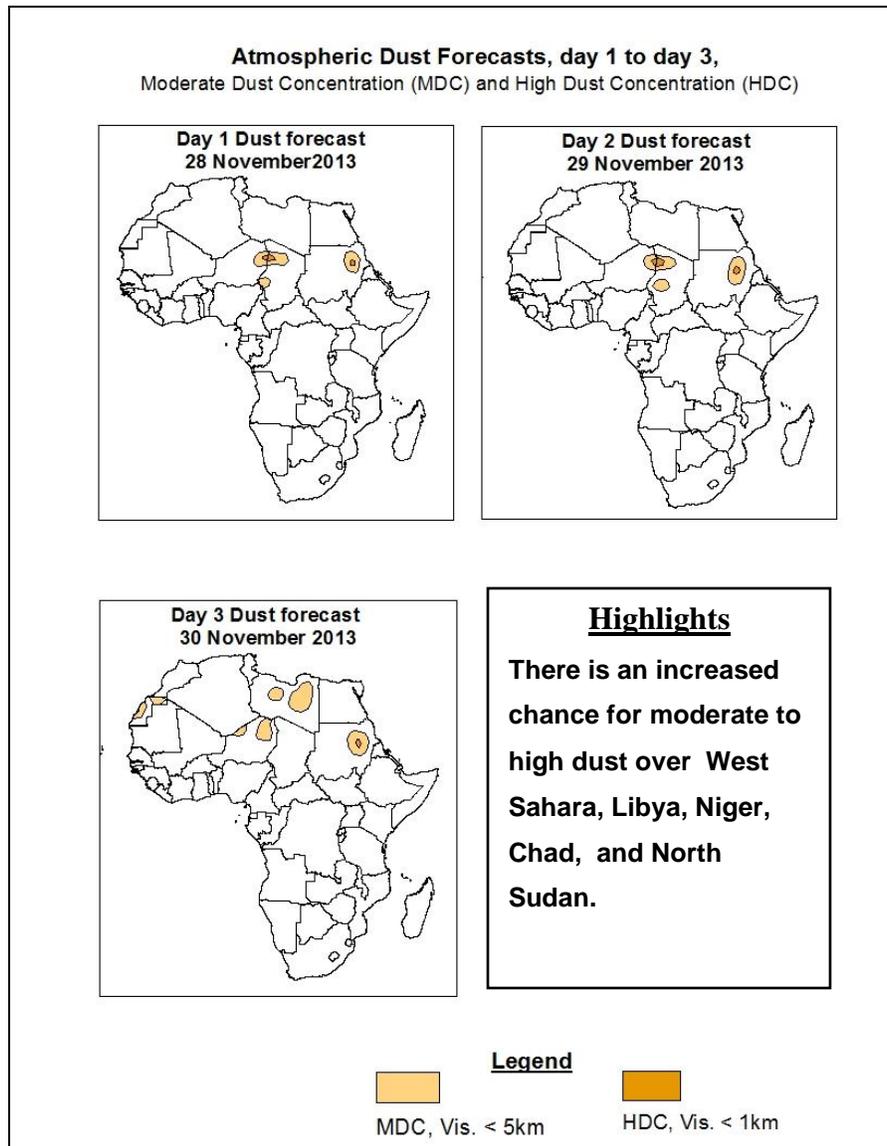
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



### Summary

In the next five days, a low level-wind convergence over Gabon, Congo, DRC, seasonal wind convergence over the Lake Victoria region and Angola, interaction between mid-latitude and tropical weather systems across southern Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over Equatorial Guinea, Gabon, Congo, RDC, the Lake Victoria region, Kenya, Angola, Zambia, Malawi, Mozambique, Lesotho, Swaziland, east of South Africa, and Madagascar.

## 1.2. Atmospheric Dust Forecasts: Valid 28 November- 30 November 2013



## 1.2. Model Discussion: Valid from 00Z of 27 November 2013

*Model comparison (Valid from 00Z: 27 November 2013) shows all the two models are in general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.*

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken gradually during the forecast period. Its central pressure value is expected to decrease from 1030hpa to 1024hpa according to GFS model and from 1030hpa to 1028hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to intensify through 48 to 96 hours. The central pressure value of this high pressure system is expected to increase from 1024hpa to 1029hpa according to the GFS model and from about 1025hpa to 1030hpa according to the UKMET model.

At 850hpa, moist cross-equatorial flow and its associated convergence is expected to dominate the flow over the Horn of Africa through 24 to 120 hours. Seasonal wind convergence over the Lake Victoria area, Horn of Africa, South Sudan, CAR, Cameroon, Gabon, south Chad, DRC, Angola, Zambia, Namibia, Botswana, Mozambique and its Channel, South Africa and Madagascar, is expected remain active during the forecast period. Interaction between mid-latitude and tropical weather systems is expected moderate to heavy rainfall over south of Cameroon, Equatorial Guinea, Gabon, Congo, DRC, the Lake Victoria region, Kenya, Angola, Zambia, Malawi, Mozambique, Lesotho, Swaziland, South Africa and Madagascar.

At 200hpa level, the sub-tropical Westerly Jet (with 70 - 150kts wind speed), extending between Mauritania and Egypt, across Western Sahara, Morocco, north Mali, Algeria, Libya north Niger, north Chad, and tends to persist during the forecast period. Moreover, sub-tropical westerly Jet (with 70 to 90kts wind speed) extending from South Africa to south Indian Ocean, across Lesotho and tends to weaken through 24 to 48

hours. And Through 72 to 120 hours it tends to re-strengthen between Namibia and India Ocean, across South Africa and Lesotho.

In the next five days, a low level-wind convergence over Gabon, Congo, DRC, seasonal wind convergence over the Lake Victoria region and Angola, interaction between mid-latitude and tropical weather systems across southern Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over Equatorial Guinea, Gabon, Congo, RDC, the Lake Victoria region, Kenya, Angola, Zambia, Malawi, Mozambique, Lesotho, Swaziland, east of South Africa, and Madagascar.

## 2.0. Previous and Current Day Weather Discussion over Africa

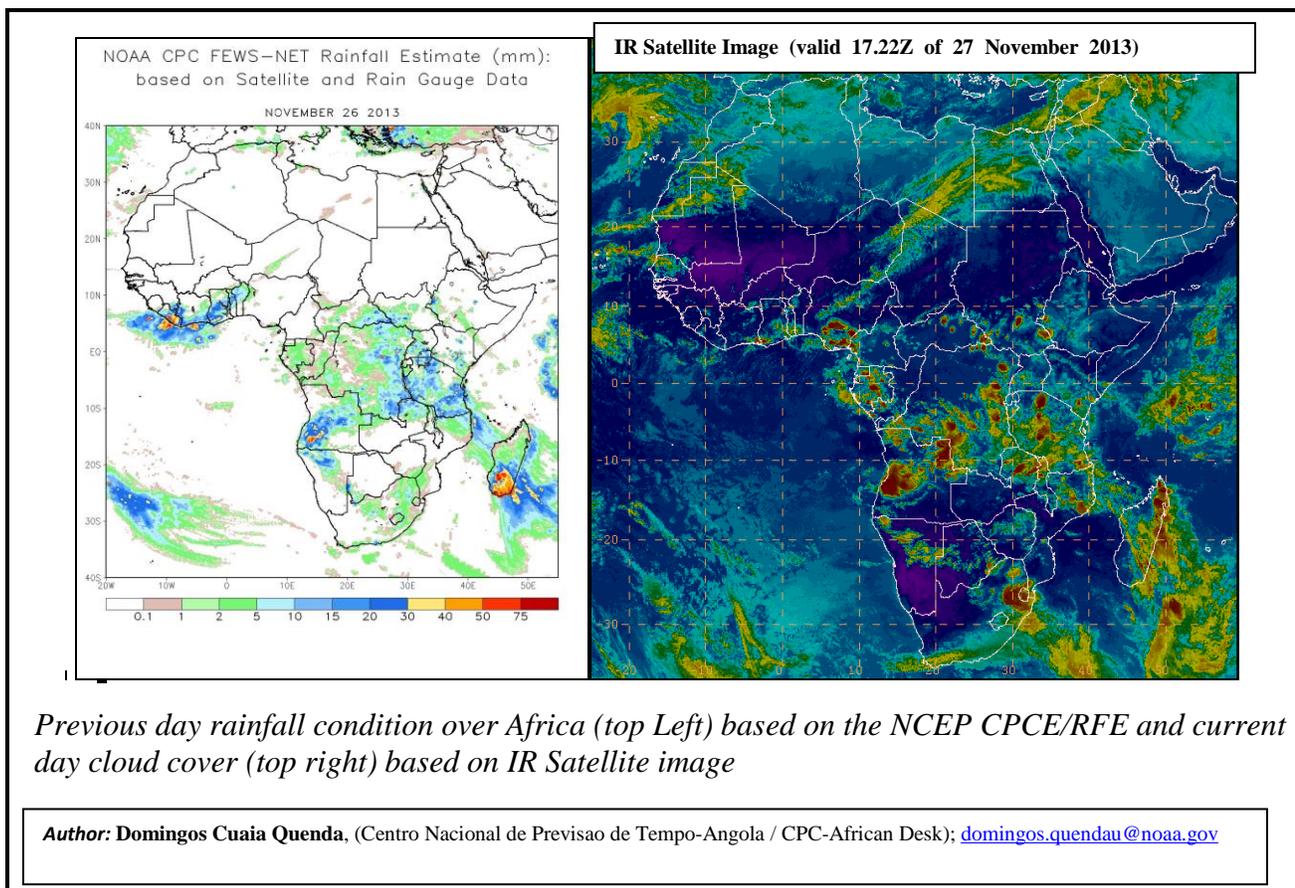
(26 November 2013 – 27 November 2013)

### 2.1. Weather assessment for the previous day (26 November 2013)

During the previous day, moderate to locally heavy rainfall was observed over Guinea, Liberia, Cote D'Ivoire, Ghana, Togo, Benin, CAR, DRC, Lake Victoria area, Kenya, Angola, Zambia, Namibia, and Madagascar.

### 2.2. Weather assessment for the current day (27 November 2013)

Intense clouds were observed over Nigeria, Gabon, DRC, Tanzania, Angola, Namibia, Zambia, Namibia, Swaziland, South Africa and Madagascar.



*Previous day rainfall condition over Africa (top Left) based on the NCEP CPCE/RFE and current day cloud cover (top right) based on IR Satellite image*

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